

Applicant: Hong Chen et al.

Title: NT69, A Novel Nucleoside Transporter Family Member and
Uses Therefor

Attorney/Agent: Jill Uhl

Docket No.: MPI2000-433CP1(M)

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GTCTGACCCACGCGTCCGCTTAGAAGGAGCACAGGAAAGTCCCAGAGGCTGCC	M G S V G S	6
ATG GGC TCC GTG GGG AGC		70
Q R L E E P S V A G T P D P G V V M S F		26
CAG CGC CTT GAG GAG CCC AGC GTG GCA GGC ACA CCA GAC CCG GGC GTA GTG ATG AGC TTC		130
L L P Y N S F I T D V D Y L H H K Y P G		46
CTG CTG CCA TAC AAC AGC TTC ATC ACG GAC GTG GAC TAC CTG CAT CAC AAG TAC CCA GGG		190
T S I V F D M S L T Y I L V A L A A V L		66
ACC TCC ATC GTG TTT GAC ATG AGC CTC ACC TAC ATC TTG GTG GCA CTG GCA GCT GTC CTC		250
L N N V L V E R L T L H T R I T A G Y L		86
CTG AAC AAC GTC CTG GTG GAG AGA CTG ACC CTG CAC ACC AGG ATC ACC GCA GGC TAC CTC		310
L A L G P L L F I S I C D V W L Q L F S		106
TTA GCC TTG GGC CCT CTC CTT TTT ATC AGC ATC TGC GAC GTG TGG CTG CAG CTC TTC TCT		370
R D Q A Y A I N L A A V G T V A F G C T		126
CGG GAC CAG GCC TAC GCC ATC AAC CTG GCC GCT GTG GGC ACC GTG GCC TTC GGC TGC ACA		430
V Q Q S S F Y G Y T G M L P K R Y T Q G		146
GTG CAG CAA TCC AGC TTC TAC GGG TAC ACG GGG ATG CTG CCC AAG CGG TAC ACG CAG GGG		490
V M T G E S T A G V M I S L S R I L T K		166
GTG ATG ACC GGG GAG AGC ACG GCG GGC GTG ATG ATC TCT CTG AGC CGC ATC CTC ACG AAG		550
L L L P D E R A S T L I F F L V S V A L		186
CTG CTG CTG CCC GAC GAG CGC GCC AGC ACG CTC ATC TTC TTC CTG GTG TCG GTG GCG CTG		610
E L L C F L L H L L V R R S R F V L F Y		206
GAG CTG CTG TGT TTC CTG CTG CAC CTG TTA GTG CGG CGC AGC CGC TTC GTG CTC TTC TAT		670
T T R P R D S H R G R P G L G R G Y G Y		226
ACC ACA CGG CCG CGT GAC AGC CAC CGG GGC AGG CCA GGC CTG GGC AGG GGC TAT GGC TAC		730
R V H H D V V A G D V H F E H P A P A L		246
CGC GTG CAC CAC GAC GTT GTC GCC GGG GAC GTC CAC TTC GAG CAC CCA GCC CCG GCC CTG		790
A P N E S P K D S P A H E V T G S G G A		266
GCC CCC AAC GAG TCC CCA AAG GAC AGC CCA GCC CAC GAG GTG ACC GGC AGC GGC GGG GCC		850
Y M R F D V P R P R V Q R S W P T F R A		286
TAC ATG CGC TTT GAC GTG CCG CGG CCA AGG GTC CAG CGC AGC TGG CCC ACC TTC AGA GCC		910
L L L H R Y V V A R V I W A D M L S I A		306
CTG TTA CTG CAC CGC TAC GTG GTG GCG CGG GTG ATC TGG GCC GAC ATG CTC TCC ATC GCC		970
V T Y F I T L C L F P G L E S E I R H C		326
GTG ACC TAC TTC ATC ACG CTG TGC CTG TTC CCC GGC CTC GAG TCT GAG ATC CGC CAC TGC		1030
I L G E W L P I L I M A V F N L S D F V		346
ATC CTG GGC GAG TGG CTG CCC ATC CTC ATC ATG GCT GTG TTC AAC CTG TCA GAC TTC GTG		1090
G K I L A A L P V D W R G T H L L A C S		366
GGC AAG ATC CTG GCA GCC CTG CCC GTG GAC TGG CGG GGC ACC CAC CTG CTG GCC TGC TCC		1150
C L R V V F I P L F I L C V Y P S G M P		386
TGC CTG CGT GTG GTC TTC ATC CCC CTC TTC ATC CTG TGC GTC TAC CCC AGC GGC ATG CCC		1210
A L R H P A W P C I F S L L M G I S N G		406
GCC CTC CGT CAC CCC GCC TGG CCC TGC ATC TTC TCA CTG CTC ATG GGC ATC AGC AAC GGC		1270

Figure 1A

Y F G S V P M I L A A G K V S P X Q R E 426
TAC TTC GGC AGC GTG CCC ATG ATC CTG GCG GCA GGC AAA GTG AGC CCC AAG CAG CGG GAG 1330

L A G N T M T V S Y M S G L T L G S A V 446
CTG GCA GGG AAC ACC ATG ACC GTG TCC TAC ATG TCA GGG CTG ACG CTG GGG TCC GCC GTG 1390

A Y C T Y S L T R D A H G S C L H A S T 466
GCC TAC TGC ACC TAC AGC CTC ACC CGC GAC GCT CAC GGC AGC TGC CTG CAC GCC TCC ACC 1450

A N G S I L A G L * 476
GCC AAT GGT TCC ATC CTC GCA GGC CTC TGA 1480

GCCAGCCCCGCCCCTGCCCAGGGACGCCGAGGGCCTGACCAGGGGCCCGAGGCCTGAGGGCCCTCCCCCTGTCCCCAC 1559

CTCAGTGCTGCGGGGCCCTGAGCCTCCCCCTGTGCCAGCAGCCCCACTCCCTCAGGGTCCAGCCATGCCCCACCCTGG 1638

ACTGAAGTTCTGCAAAGTCTCCGAGGACCGGAACACGTTTCTGCGACCCGGGGCTCTGCCCAGCACTGTGTTCTGCGT 1717

TTGGTCTCATACCTGCGTCTACCTTCCATCTGTGTCCAGCGGCCCGGCTCCAGCCCAGCCAGCACTCTGCAGGGTCAC 1796

ACGCACCGTGTCCCCACCCAGGACAGCAGACACCCGCCAGAGTGTGCGCGCCCACTGACTGCACCCCGGCCCTCATCAC 1875

CCACCGGCACTGATCGGGGCACCGCCTGGCCCAGCCTCCACCAGGGACCCCTCCTCATGAACCTCTGGAGCCCTGAGAGG 1954

AGAGGGGCAGCCCCCACCTTGTACCCCTCAGGGCTTCCCCCTCTGTCTCTATTCTTAGAGACTGCTTCTCCCAAACAT 2033

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CAGCAGTGATGCCAGCTGGGCACGTGAGACCTCCCCACACACCCACACGATGCCACAGGTCAGGGGGCTGTGCCTGAC 2191

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CGTAGGGAGGGGCTGGGGGTCACTCCAGCCCGGGCCTCCAGAACACCAGGCCCCGTGTGGGTGGCACCCCTGAGGTCAGG 2428

GGATCCTAAGGGTGTCTTCCAGAGACGGTGTTCAGGGGGAGGACCGCCCCCGCTTCCAGATCCCCGGCCCCGGCTG 2507

TGACTGCCCTGTTTCAACCCCTGCTGTGTCCCATCCCCCGTCTGTCCACTAACTGTACCGCACCGGCCATTAAAGATGA 2586

AGGCAGACCGCTGCAAAAAAAAAAAAAAGGGCGGCCGC 2625

Figure 1B

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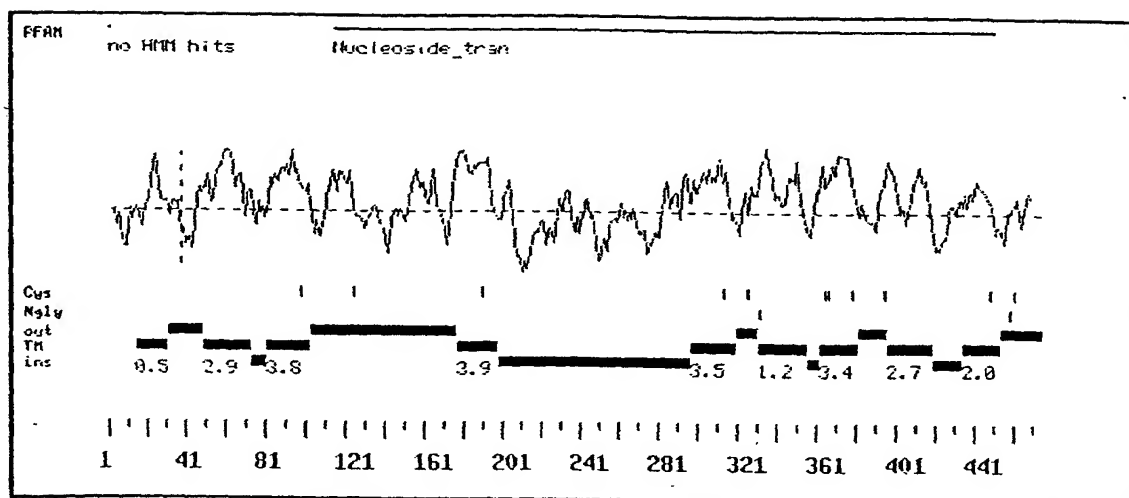


Figure 2

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*->mimivvNsgsnaiiQnSifGlagefPskYtqAVmIGQnlaGvlvsL
++++ + + + Q S -G g +P +Ytq+Vm G + aGv +sL
115 LAAVGTVAf-GCTVQSSSFYGYTGMLPKRYTQGVMTGESTAGVMISL 160

lsialtkassdeDPvslslsAllyFgtslvvvvCiicylvkklrfyky
+i ltk + ++ + s l +F +s + ++C+ + l ++rf+ +
161 SRI-LTKLLLPD----ERASTLIFFLVSVALELLCFLHLLVRRSRFVLF 205

yeqlkdG.....HitdlagegeqenkeEliiegeedqpe
y ++ ++++++ + + + H +ag e + + + e+ p+
206 YTRPRDshrgprgigrgygyrvHHDVVAGDVHFEHPAPALAPNES--PK 253

sgskvalhrilsg.....tfepnseqlenqwlGkvsffvil.....a
+ + + + + g + + + f + + + w + + f + + l + + +
254 DSP----AHEVTGsggaymRFDVPRPRVQRSWP---TFRALLhryvvar 296

kfpvlalsivlvftVtLsvFPavtsevvsSealstWnekYFmpVisFLlF
++ ++lsi ++ + tL FP++ se + + l++W + + l+ ++F
297 VIWADMLSIATYFITLCLFPGLESEIRHCI-LGEWLP-----ILIMAVF 340

NvFDllGrslAavfm.wpgqKFdpwlpvlsilRllFiPlFlCnvkpes
N+ D+G++lAa + +w+g l+ s+LR++FiPlF+lC ++
341 NLSDFVGKILAAALPVDWRGT-----HLLACSLRVVFIPLFILCVYP--- 382

ilmHLFhmTVFLFLSLSiDKDsRELadealPvffesdaifiifmalfasn
s P + + + a+ if +l++ sn
383 -----SG-----MPAL-RHPAWPCIFSLLMGISN 405

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G Y+ S+ M++a +v p+ +e AG+ ++ ++G
406 G--YFGSVPMLAAGKVS-PKQRELAGNTMTVSYMSG----- 439

YSRLLPmPDSElLalGsvfsylira<-*
L lGs -y +
440 -----LTLSAVAYCTYS 452

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Figure 3A

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Query: 127 VQSSSFYGYTGMLPKRYTQGVMTGESTAGVMISLRIKLLLPDERA--STLIFFLVSV 184
      V Q +G G LP +YTQ VM G+ GV +SL I TK + P S +F +++
Sbjct: 13 VMQGGIFGLAGELPSKYTQAVMVGQGLCGVFSLLSISTKAVYPTNILDFAFGYFSIAL 72

Query: 185 AXXXXXXXXXXVRRSRFVLFYTTTRPRDShXXXXXXXXXXXXXVHHDVVAGDVHFEHPAP 244
      +++ +F +YT + + + G++ + P
Sbjct: 73 VTLLICFICYHILKMKFYRYTENTKNEQ-----AGKNEETKGELRSNNE-P 119

Query: 245 ALAPNESPK-DSPAHEVTGSGGAYMRFDVPRPRVQRSWPTFRALLHRYVVARVIWADML 303
      P E + + H T S + P+ + FR + +Y++ + M+
Sbjct: 120 NGIPGEPQQGEDEHRRPTSSNDSETEEQQLPKKTSFFFAVFRKI---KYMLLSIFLVFMV 176

Query: 304 SIATYFITLCLFPGLESEIRHCILGENLPILIMAVFNLSDFVGKILAAALPVDWRGTHL- 362
      +++ IT + + + +P+ +FN+ D++G+I+A++ + W +
Sbjct: 177 TLSIFPGITAYVSSSKVHDWPWSNSYFMPVACFLFNVDWIGRIIASMKM-WPDENKQ 235

Query: 363 ----LACSLRVVFIPLFILCVY-PSG--MPALRHPAWPCIFSLM--GISNGYFGSVP 412
      + S LR++FIPLF++C Y P +P + F +L G SNGY S+
Sbjct: 236 RWIPIVFSFLRLFLPLFMCNYIPEHRYLPVFFESVFDWYFIILQALFGFSNGYLSSLA 295

Query: 413 MILAAGKVS---PKQRELAGNTMTVSYMSGTLGSAVAY 448
      M+ A S P + E+AG M + GL G+ ++
Sbjct: 296 MMYAPQSKSVDPNSKAEVAGNMGMFFLIVGLASGAVFSF 334

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Figure 3B

Expression of hNT69 w/ β 2

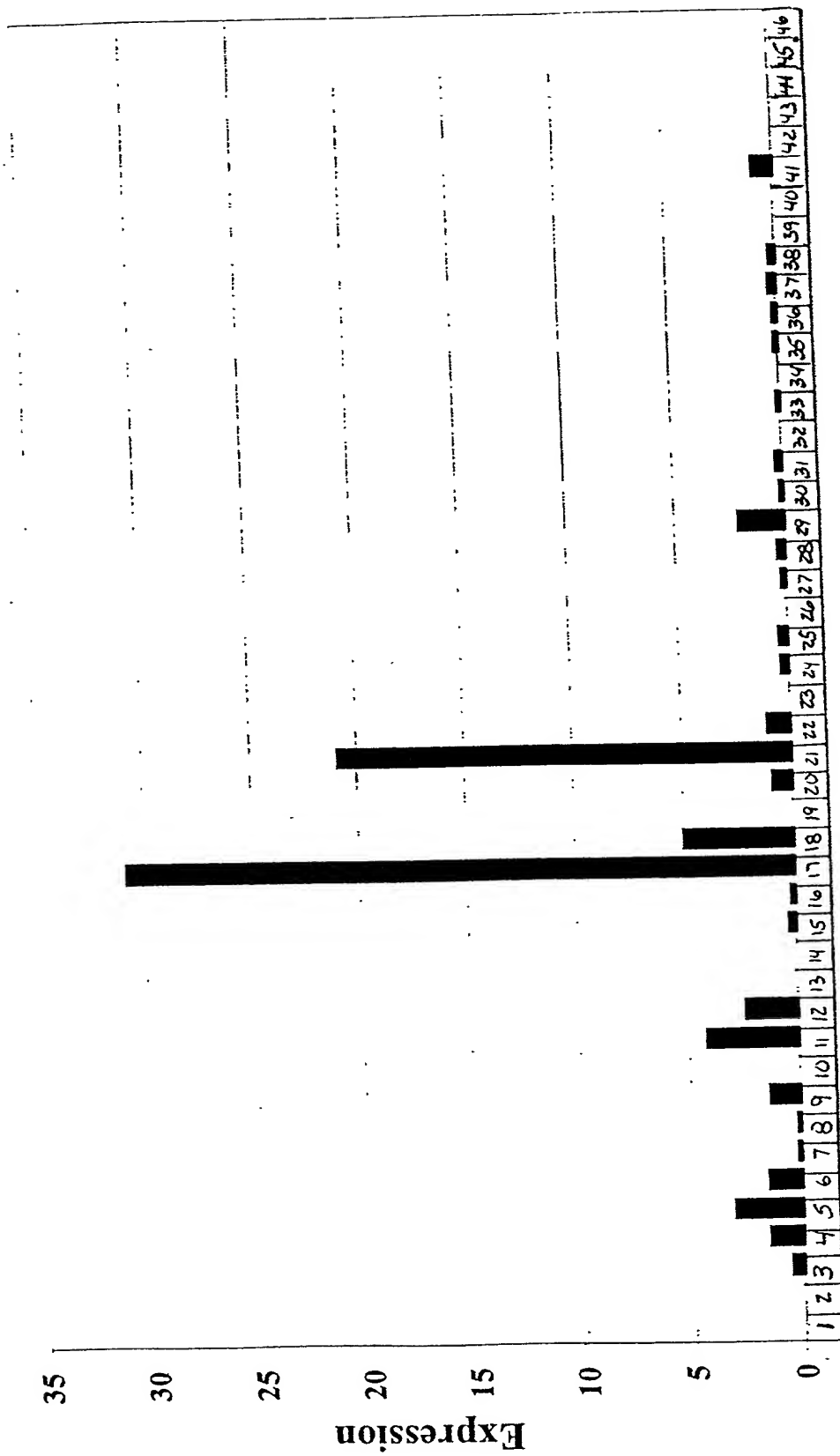


Figure 4

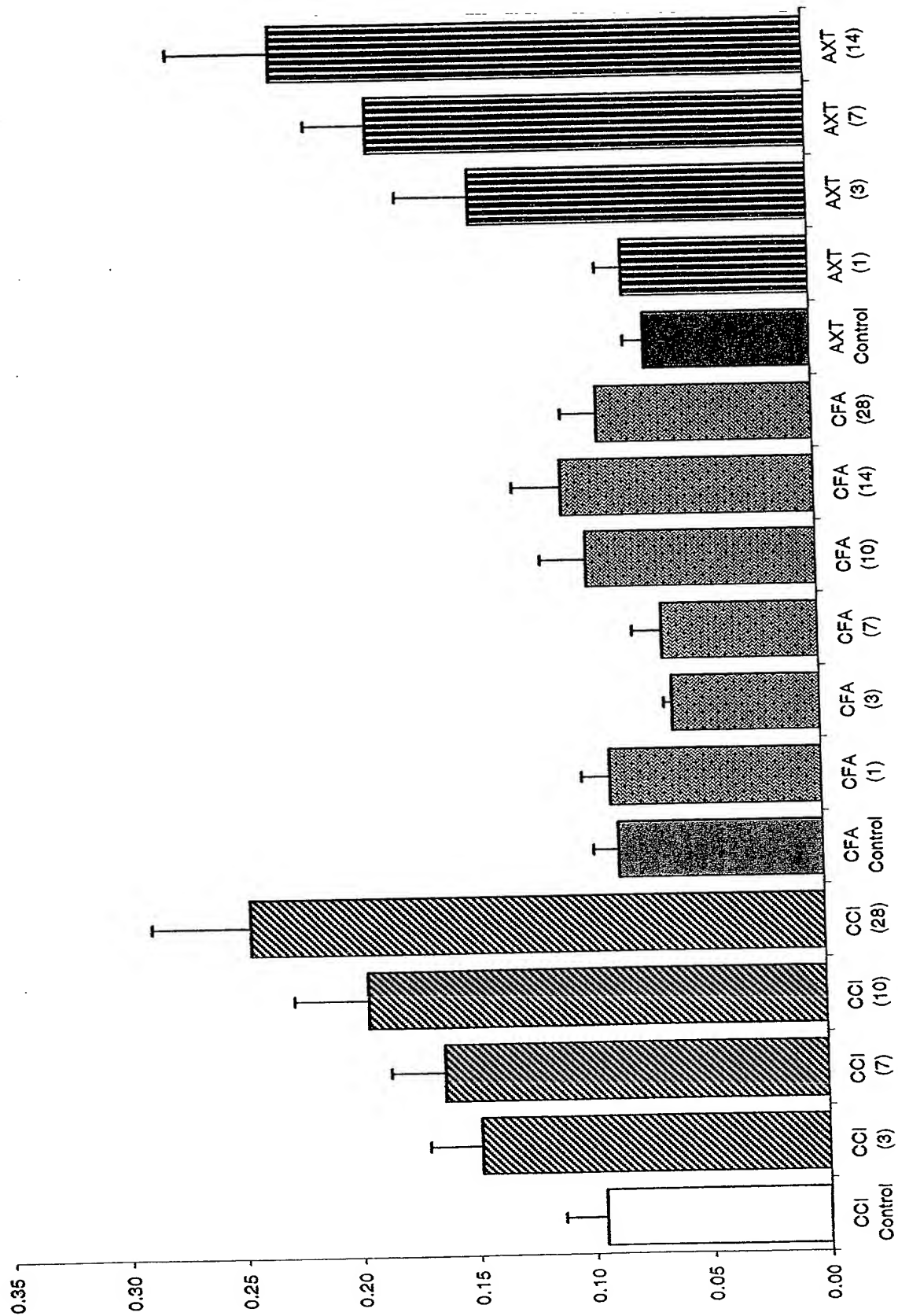


Figure 5

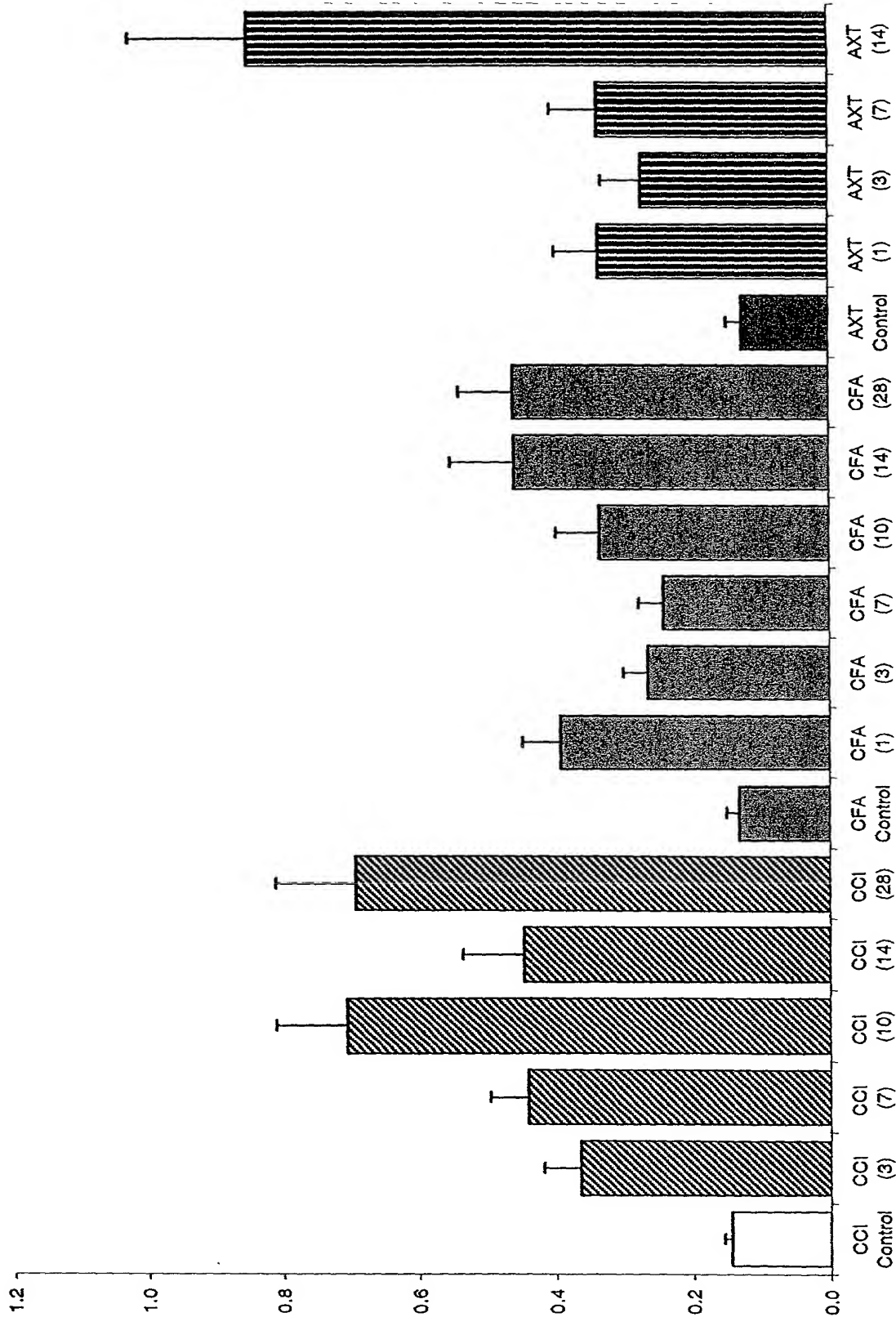


Figure 6